

WHAT IS CLAIMED IS:

1. A graphical user interface configured to organize and manage the layers of a digitized map, the graphical user interface comprising:
  - a layer hierarchy including a first layer and a second layer;
  - a first display range defining a first set of map scales at which the first layer is displayed in the digitized map; and
  - a second display range defining a second set of map scales at which the second layer is displayed in the digitized map.
2. The graphical user interface of claim 1, further comprising a first graphics style representing a first map feature included in the first layer.
3. The graphical user interface of claim 2, further comprising a first display range bar corresponding to the first graphics style and spanning the first display range.
4. The graphical user interface of claim 2, further comprising a first summary bar corresponding to the first layer and spanning the first display range.
5. The graphical user interface of claim 1, further comprising a first graphics style and a second graphics style, the first graphics style and the second graphics style representing a first map feature included in the first layer.

6. The graphical user interface of claim 5, further comprising a first display range bar corresponding to the first graphics style and the second graphics style and spanning the first display range.

7. The graphical user interface of claim 5, further comprising a first summary bar corresponding to the first layer and spanning the first display range.

8. The graphical user interface of claim 5, wherein the first display range includes a first subset of map scales and a second subset of map scales, and further comprising a first display range bar corresponding the first graphics style and spanning the first subset of map scales, and a second display range bar corresponding to the second graphics style and spanning the second subset of map scales.

9. The graphical user interface of claim 1, wherein the layer hierarchy further includes a first node under which one or more layers of the digitized map are organized.

10. The graphical user interface of claim 9, further comprising a first summary bar corresponding to the first node and spanning a third display range defining a third set of map scales, the third set of map scales including each map scale at which any layer organized under the node is displayed in the digitized map.

11. The graphical user interface of claim 9, wherein the node is a layer group or a sub-layer group.
12. The graphical user interface of claim 1, wherein the first layer and the second layer are arranged in the layer hierarchy based on the order in which they are superimposed when the digitized map is rendered.
13. An analyzer configured to compute data weights and transmission times of a digitized map, the analyzer comprising:
  - a target resolution selector configured for inputting a display screen resolution of an end-user computing device;
  - a target client bandwidth selector configured for inputting an available bandwidth to the end-user computing device;
  - a data weight scale configured to provide a range of data weights; and
  - a transmission time scale configured to provide a range of transmission times.
14. The analyzer of claim 13, further comprising display ranges configured to provide a range of map scales.
15. The analyzer of claim 14, wherein the analyzer is configured to select a first arbitrary map scale and to compute a first data weight and a first transmission time for the digitized map at the first random map scale using a first display screen

resolution and a first available bandwidth.

16. The analyzer of claim 15, wherein the analyzer is configured to select a second random map scale and to compute a second data weight and a second transmission time for the digitized map at the second random map scale using the first display screen resolution and the first available bandwidth.

17. The analyzer of claim 16, wherein the analyzer is further configured to display a graphical representation of the first data weight, the first transmission time, the second data weight and the second transmission time, the first data weight and the second data weight included in the range of data weights, and the first transmission time and the second transmission time included in the range of transmission times.

18. A system for organizing and managing the layers of a digitized map, the system comprising:

a graphical user interface having:

a layer hierarchy including a first layer and a second layer,

a first display range defining a first set of map scales at which the first layer is displayed in the digitized map, and

a second display range defining a second set of map scales at which the second layer is displayed in the digitized map; and

an analyzer having:

a target resolution selector configured for inputting a display screen resolution of an end-user computing device,  
a target client bandwidth selector configured for inputting an available bandwidth to the end-user computing device,  
a data weight scale configured to provide a range of data weights,  
and  
a transmission time scale configured to provide a range of transmission times.

19. The system of claim 18, further comprising a first graphics style representing a first map feature included in the first layer, and a first display range bar corresponding to the first graphics style and spanning either all or part of the first display range.

20. The system of claim 18, wherein the analyzer is configured to select a first arbitrary map scale and to compute a first data weight and a first transmission time for the digitized map at the first random map scale using a first display screen resolution and a first available bandwidth.